FIG.1

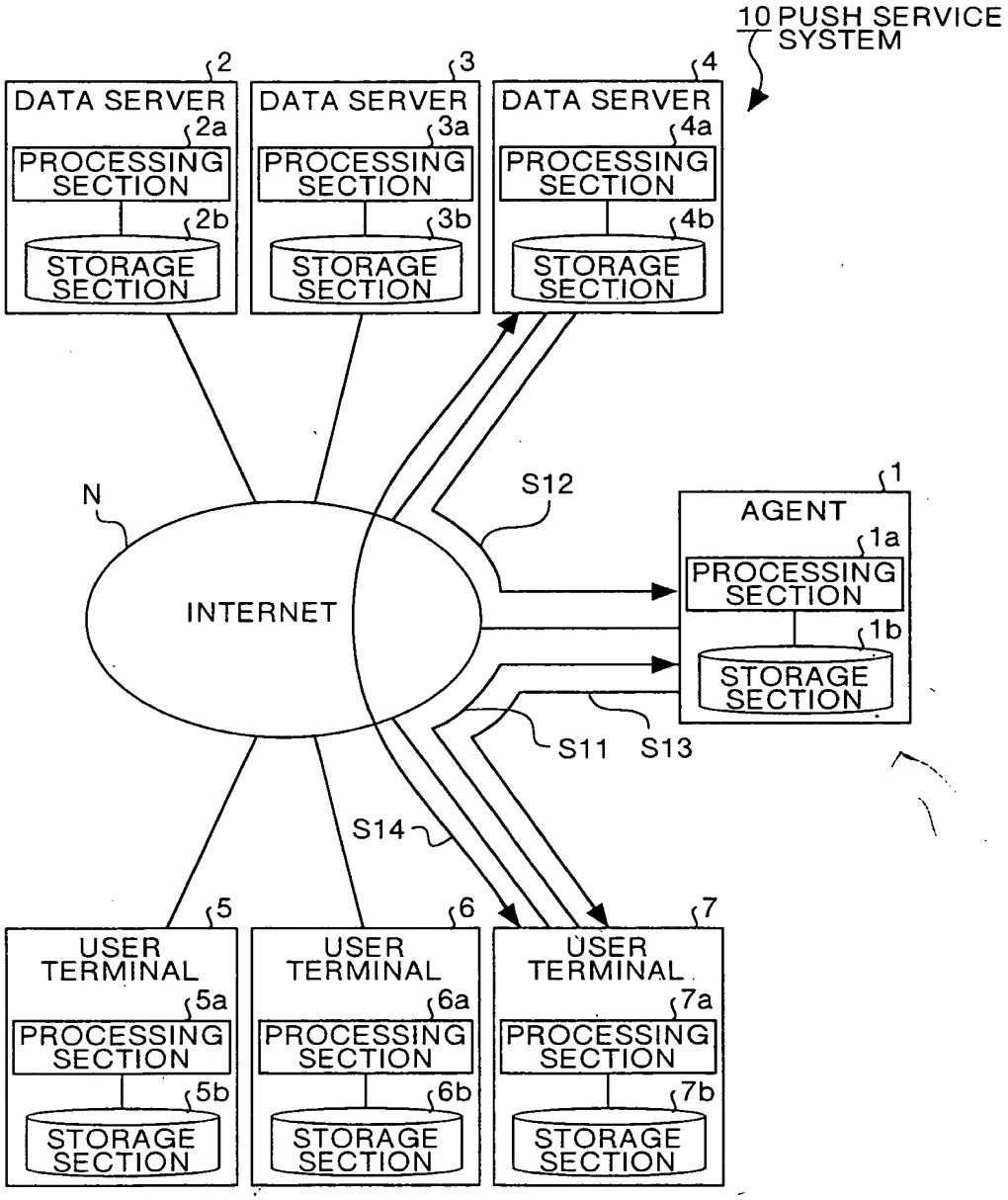

10 PUSH SERVICE SYSTEM
DATA SERVER
2
2a
PROCESSING SECTION
2b
STORAGE SECTION
DATA SERVER
3
3a
PROCESSING SECTION
3b
STORAGE SECTION
DATA SERVER
4
4a
PROCESSING SECTION
4b
STORAGE SECTION
N
INTERNET
S12
AGENT
1
1a
PROCESSING SECTION
1b
STORAGE SECTION
S11
S13
S14
USER TERMINAL
5
5a
PROCESSING SECTION
5b
STORAGE SECTION
USER TERMINAL
6
6a
PROCESSING SECTION
6b
STORAGE SECTION
USER TERMINAL
7
7a
PROCESSING SECTION
7b
STORAGE SECTION

FIG.2

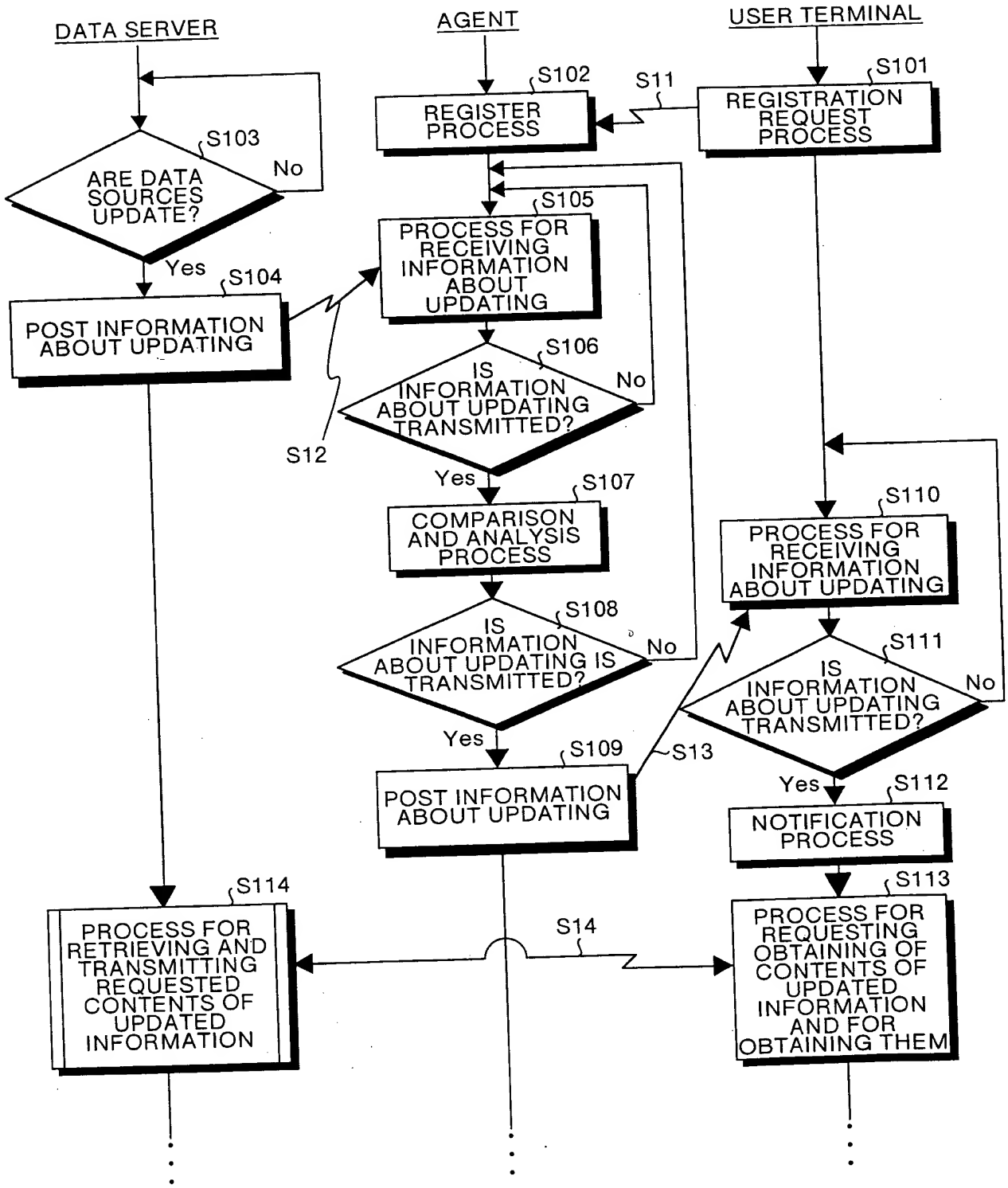

DATA SERVER
AGENT
USER TERMINAL
S101
REGISTRATION REQUEST PROCESS
S11
S102
REGISTER PROCESS
S103
ARE DATA SOURCES UPDATE?
No
Yes
S104
POST INFORMATION ABOUT UPDATING
S105
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S106
IS INFORMATION ABOUT UPDATING TRANSMITTED?
No
Yes
S12
S107
COMPARISON AND ANALYSIS PROCESS
S108
IS INFORMATION ABOUT UPDATING IS TRANSMITTED?
No
Yes
S109
POST INFORMATION ABOUT UPDATING
S13
S110
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S111
IS INFORMATION ABOUT UPDATING TRANSMITTED?
No
Yes
S112
NOTIFICATION PROCESS
S113
PROCESS FOR REQUESTING OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM
S14
S114
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION

FIG.3

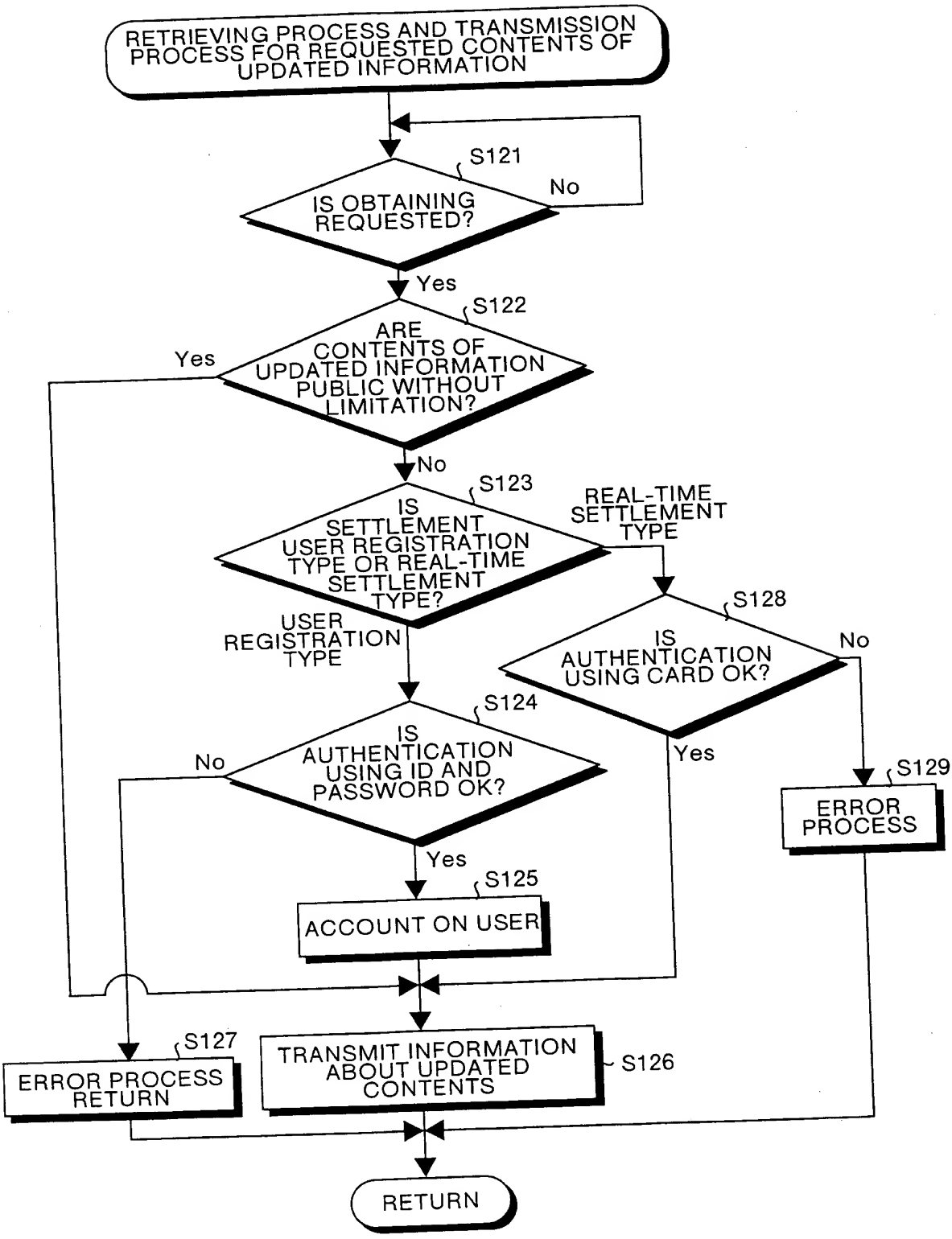

RETRIEVING PROCESS AND TRANSMISSION PROCESS FOR REQUESTED CONTENTS OF UPDATED INFORMATION
S121
IS OBTAINING REQUESTED?
No
Yes
S122
ARE CONTENTS OF UPDATED INFORMATION PUBLIC WITHOUT LIMITATION?
Yes
No
S123
IS SETTLEMENT USER REGISTRATION TYPE OR REAL-TIME SETTLEMENT TYPE?
REAL-TIME SETTLEMENT TYPE
USER REGISTRATION TYPE
S128
IS AUTHENTICATION USING CARD OK?
No
Yes
S124
IS AUTHENTICATION USING ID AND PASSWORD OK?
No
Yes
S129
ERROR PROCESS
S125
ACCOUNT ON USER
S127
ERROR PROCESS RETURN
TRANSMIT INFORMATION ABOUT UPDATED CONTENTS
S126
RETURN

FIG.4A

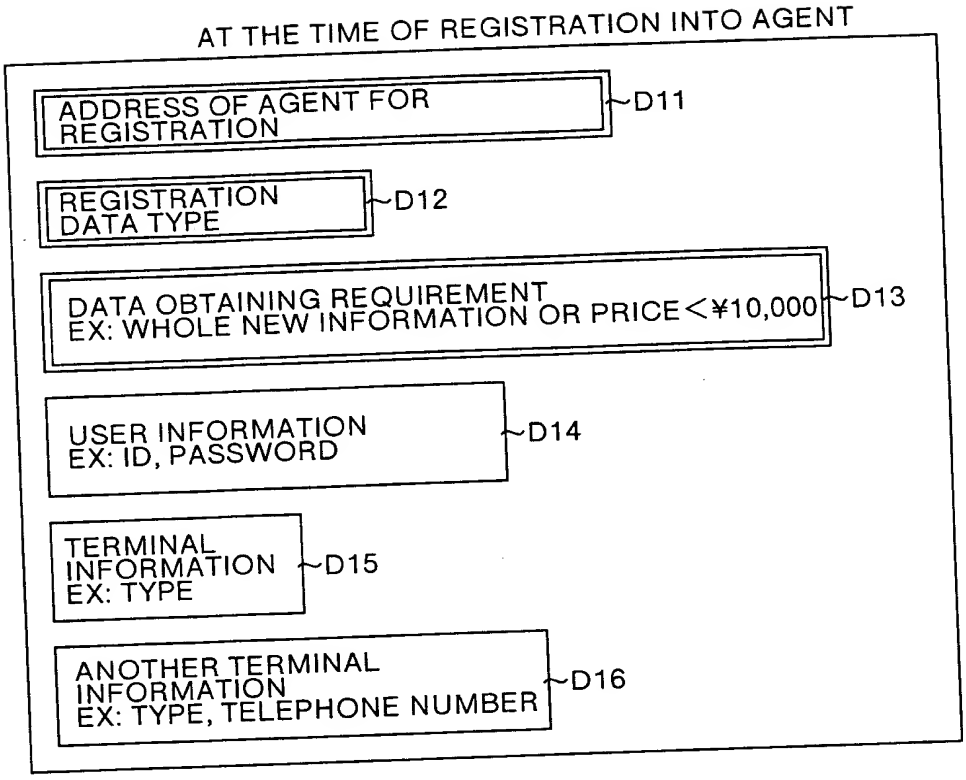

AT THE TIME OF REGISTRATION INTO AGENT
ADDRESS OF AGENT FOR REGISTRATION
D11
REGISTRATION DATA TYPE
D12
DATA OBTAINING REQUIREMENT
EX: WHOLE NEW INFORMATION OR PRICE＜¥10,000
D13
USER INFORMATION
EX: ID, PASSWORD
D14
TERMINAL INFORMATION
EX: TYPE
D15
ANOTHER TERMINAL INFORMATION
EX: TYPE, TELEPHONE NUMBER
D16

FIG.4B

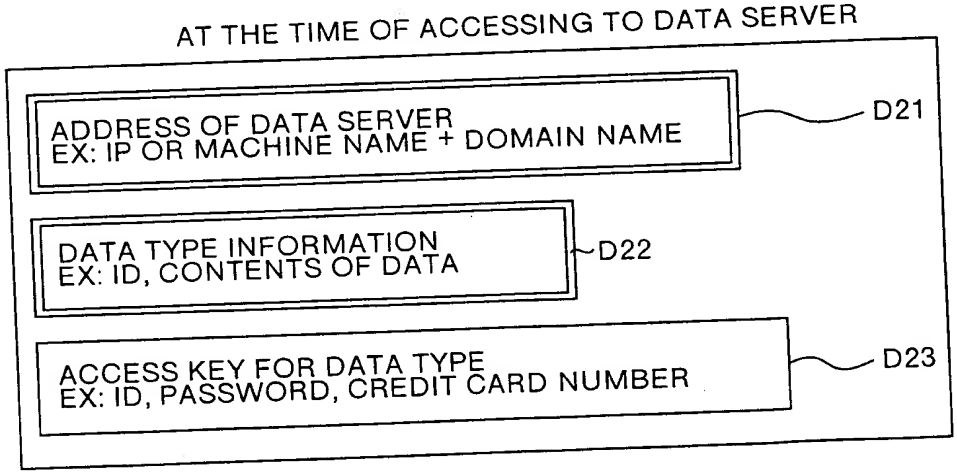

AT THE TIME OF ACCESSING TO DATA SERVER
ADDRESS OF DATA SERVER
EX: IP OR MACHINE NAME + DOMAIN NAME
D21
DATA TYPE INFORMATION
EX: ID, CONTENTS OF DATA
D22
ACCESS KEY FOR DATA TYPE
EX: ID, PASSWORD, CREDIT CARD NUMBER
D23

FIG.5A

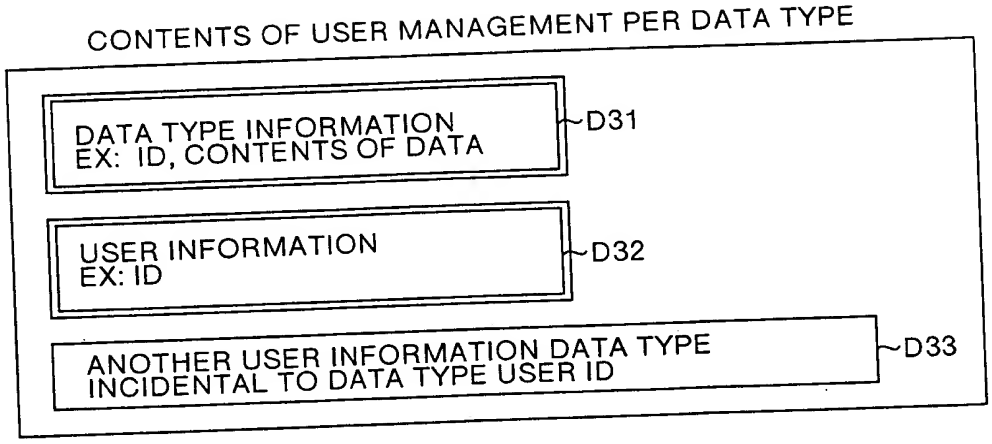


FIG.5B

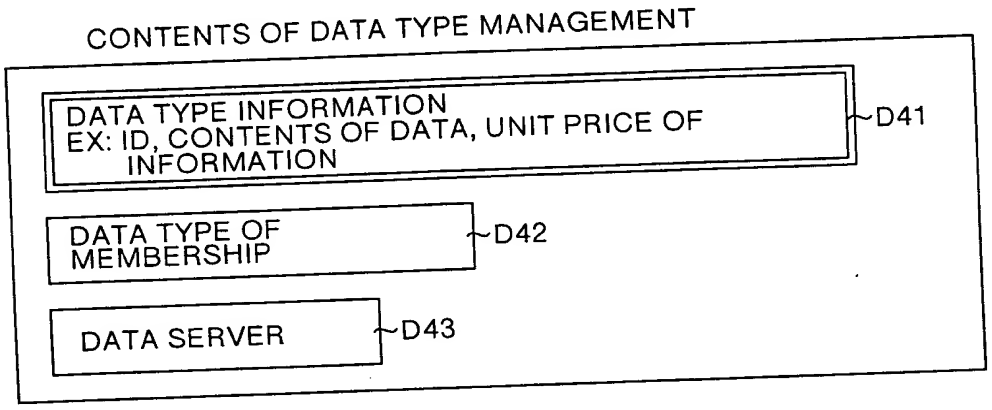


FIG.5C

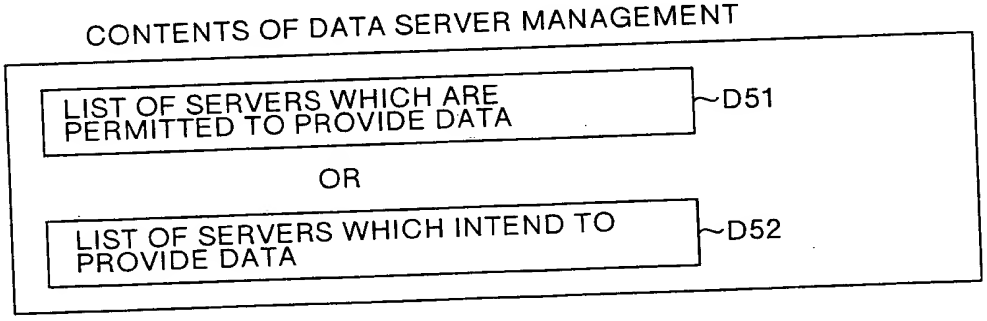


FIG.6

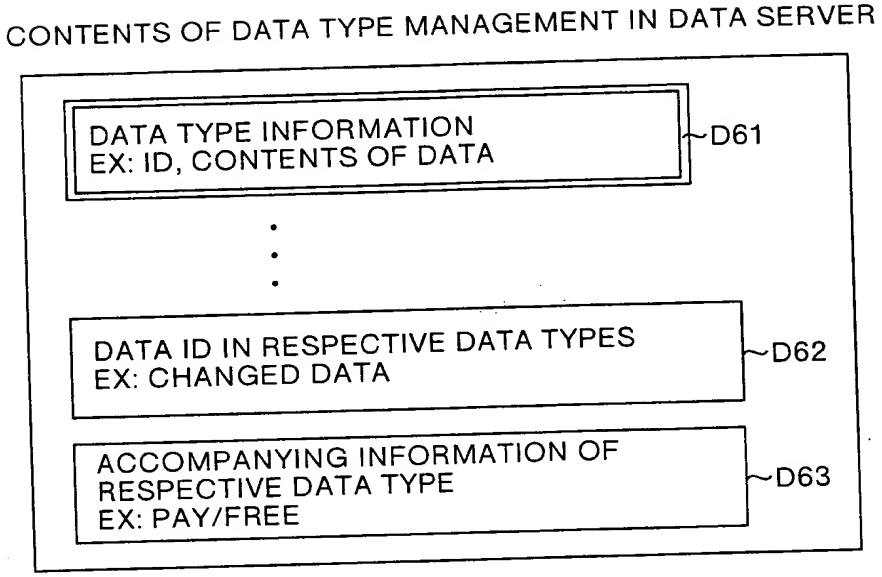

CONTENTS OF DATA TYPE MANAGEMENT IN DATA SERVER
DATA TYPE INFORMATION
EX: ID, CONTENTS OF DATA
D61
DATA ID IN RESPECTIVE DATA TYPES
EX: CHANGED DATA
D62
ACCOMPANYING INFORMATION OF
RESPECTIVE DATA TYPE
EX: PAY/FREE
D63

FIG.7

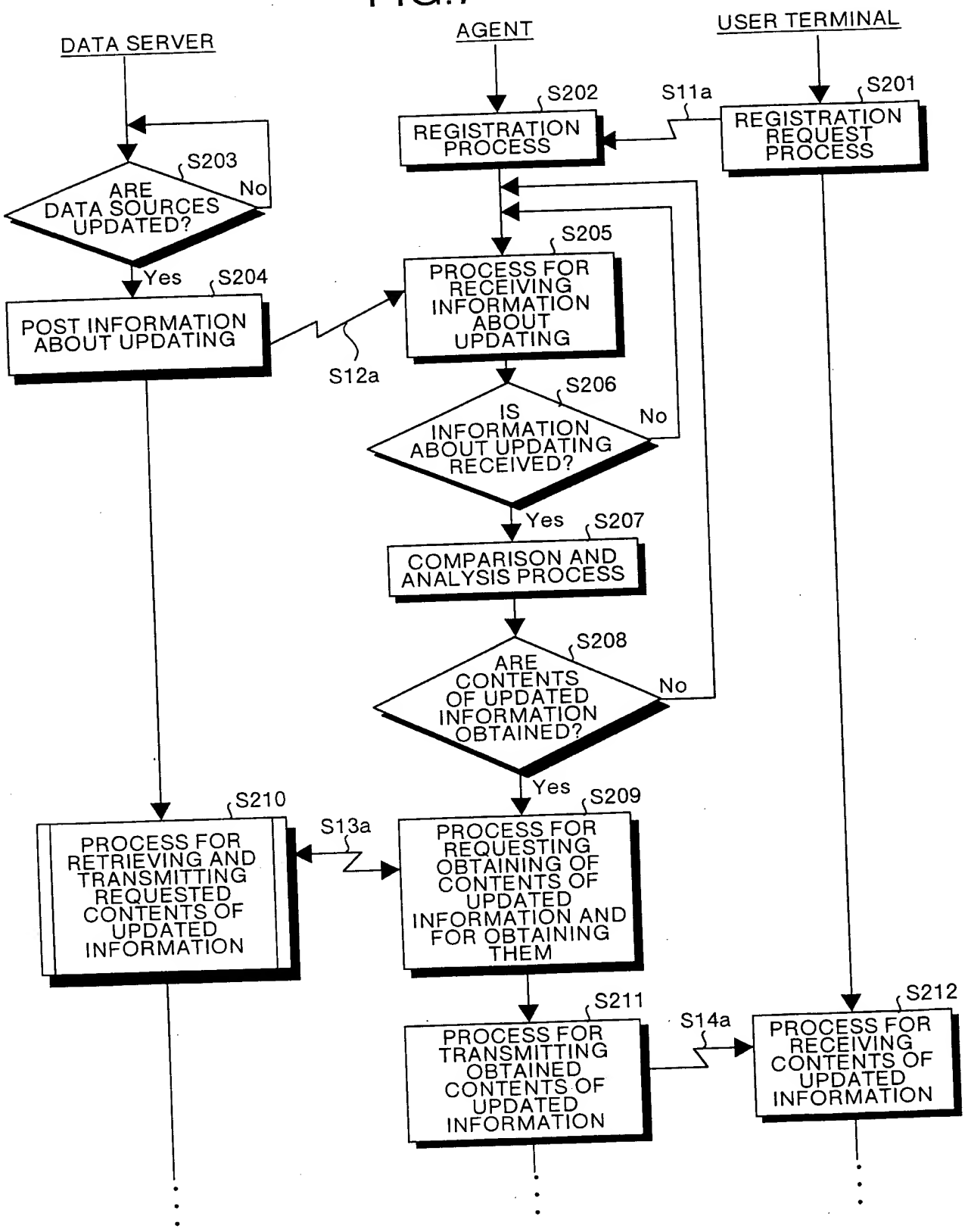

DATA SERVER
AGENT
USER TERMINAL
S202
S11a
S201
REGISTRATION PROCESS
REGISTRATION REQUEST PROCESS
S203
ARE DATA SOURCES UPDATED?
No
Yes
S204
POST INFORMATION ABOUT UPDATING
S12a
S205
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S206
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S207
COMPARISON AND ANALYSIS PROCESS
S208
ARE CONTENTS OF UPDATED INFORMATION OBTAINED?
No
Yes
S210
S13a
S209
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION
PROCESS FOR REQUESTING OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM
S211
S14a
S212
PROCESS FOR TRANSMITTING OBTAINED CONTENTS OF UPDATED INFORMATION
PROCESS FOR RECEIVING CONTENTS OF UPDATED INFORMATION

FIG.8

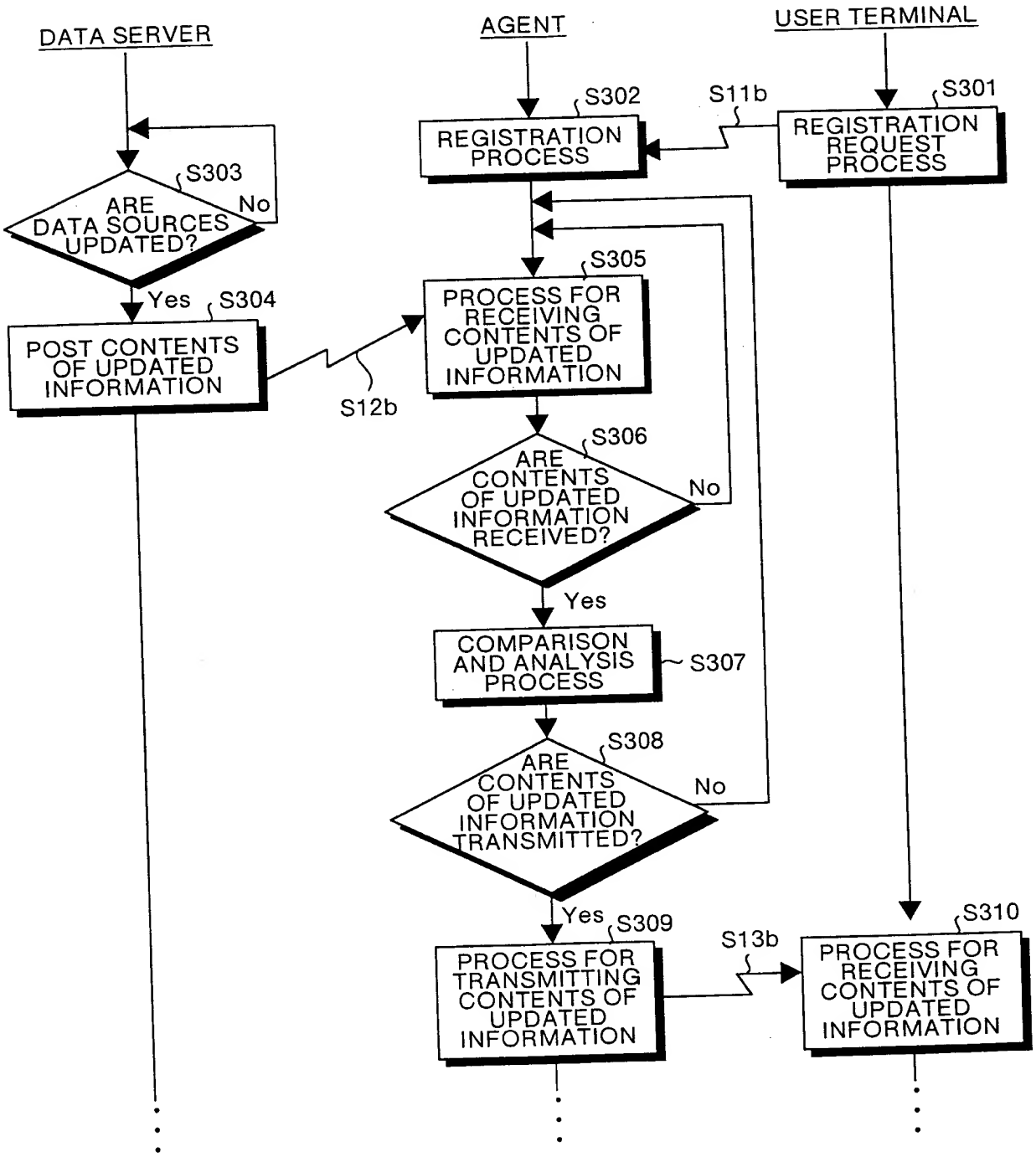

DATA SERVER
AGENT
USER TERMINAL
S302
REGISTRATION PROCESS
S11b
S301
REGISTRATION REQUEST PROCESS
S303
ARE DATA SOURCES UPDATED?
No
Yes
S304
POST CONTENTS OF UPDATED INFORMATION
S12b
S305
PROCESS FOR RECEIVING CONTENTS OF UPDATED INFORMATION
S306
ARE CONTENTS OF UPDATED INFORMATION RECEIVED?
No
Yes
COMPARISON AND ANALYSIS PROCESS
S307
S308
ARE CONTENTS OF UPDATED INFORMATION TRANSMITTED?
No
Yes
S309
PROCESS FOR TRANSMITTING CONTENTS OF UPDATED INFORMATION
S13b
S310
PROCESS FOR RECEIVING CONTENTS OF UPDATED INFORMATION

FIG.9

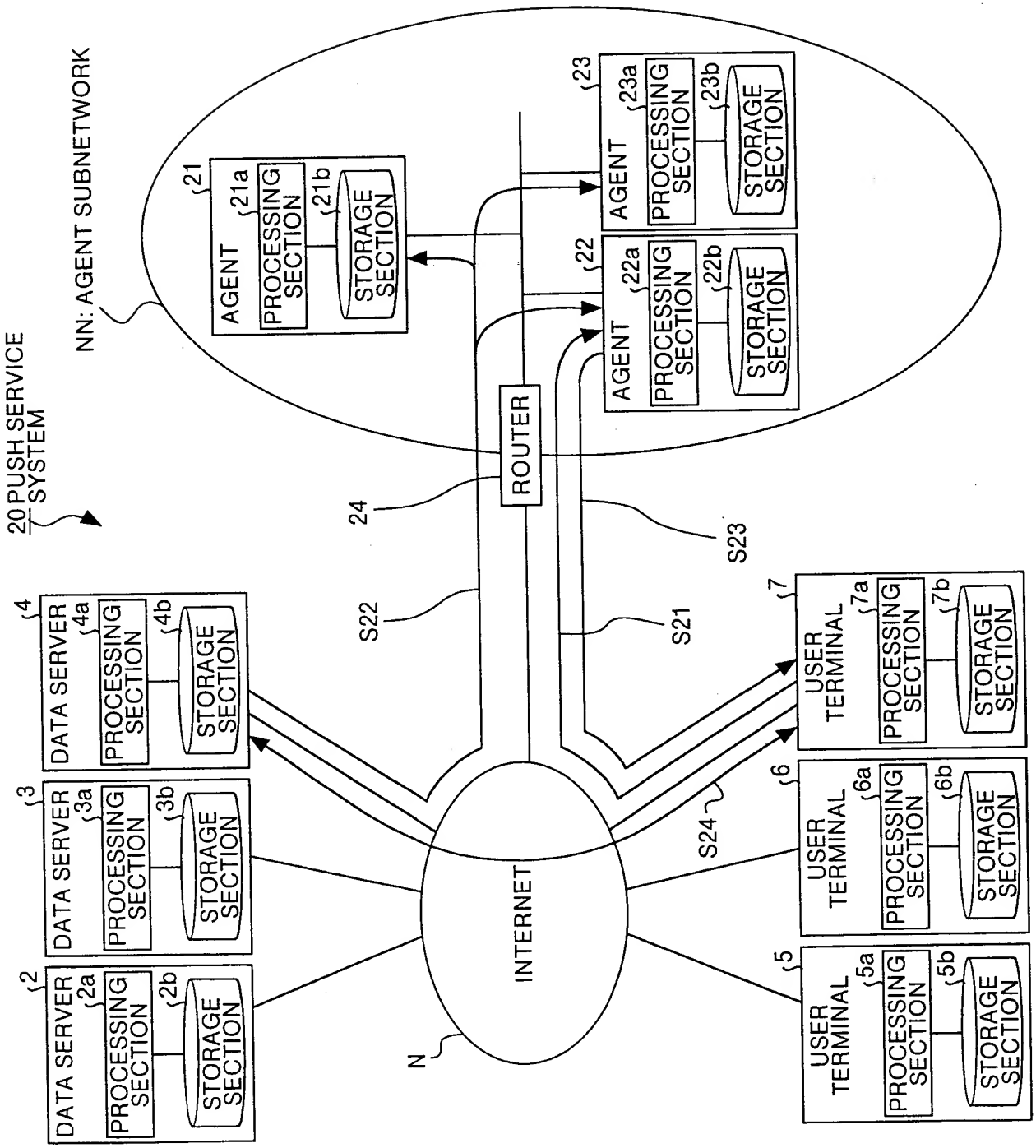

20 PUSH SERVICE SYSTEM
NN: AGENT SUBNETWORK
21
AGENT
21a
PROCESSING SECTION
21b
STORAGE SECTION
22
AGENT
22a
PROCESSING SECTION
22b
STORAGE SECTION
23
AGENT
23a
PROCESSING SECTION
23b
STORAGE SECTION
ROUTER
24
S22
S21
S23
S24
INTERNET
N
2
DATA SERVER
2a
PROCESSING SECTION
2b
STORAGE SECTION
3
DATA SERVER
3a
PROCESSING SECTION
3b
STORAGE SECTION
4
DATA SERVER
4a
PROCESSING SECTION
4b
STORAGE SECTION
5
USER TERMINAL
5a
PROCESSING SECTION
5b
STORAGE SECTION
6
USER TERMINAL
6a
PROCESSING SECTION
6b
STORAGE SECTION
7
USER TERMINAL
7a
PROCESSING SECTION
7b
STORAGE SECTION

FIG.10

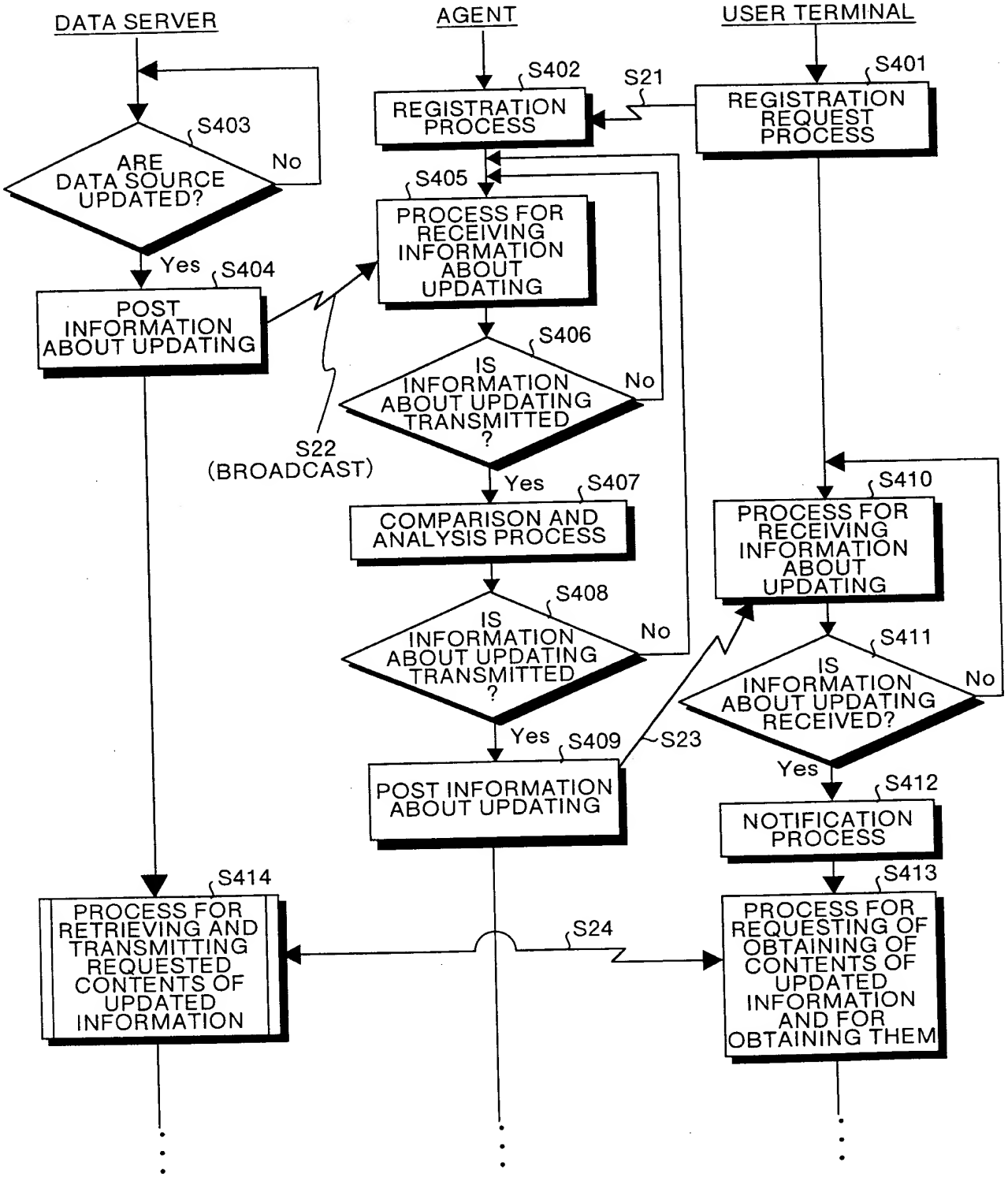

DATA SERVER
AGENT
USER TERMINAL
S402
S21
S401
REGISTRATION PROCESS
REGISTRATION REQUEST PROCESS
S403
ARE DATA SOURCE UPDATED?
No
Yes
S404
POST INFORMATION ABOUT UPDATING
S405
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S406
IS INFORMATION ABOUT UPDATING TRANSMITTED ?
No
S22
(BROADCAST)
Yes
S407
COMPARISON AND ANALYSIS PROCESS
S410
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S408
IS INFORMATION ABOUT UPDATING TRANSMITTED ?
No
S411
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S409
S23
POST INFORMATION ABOUT UPDATING
Yes
S412
NOTIFICATION PROCESS
S414
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION
S24
S413
PROCESS FOR REQUESTING OF OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM

FIG.11

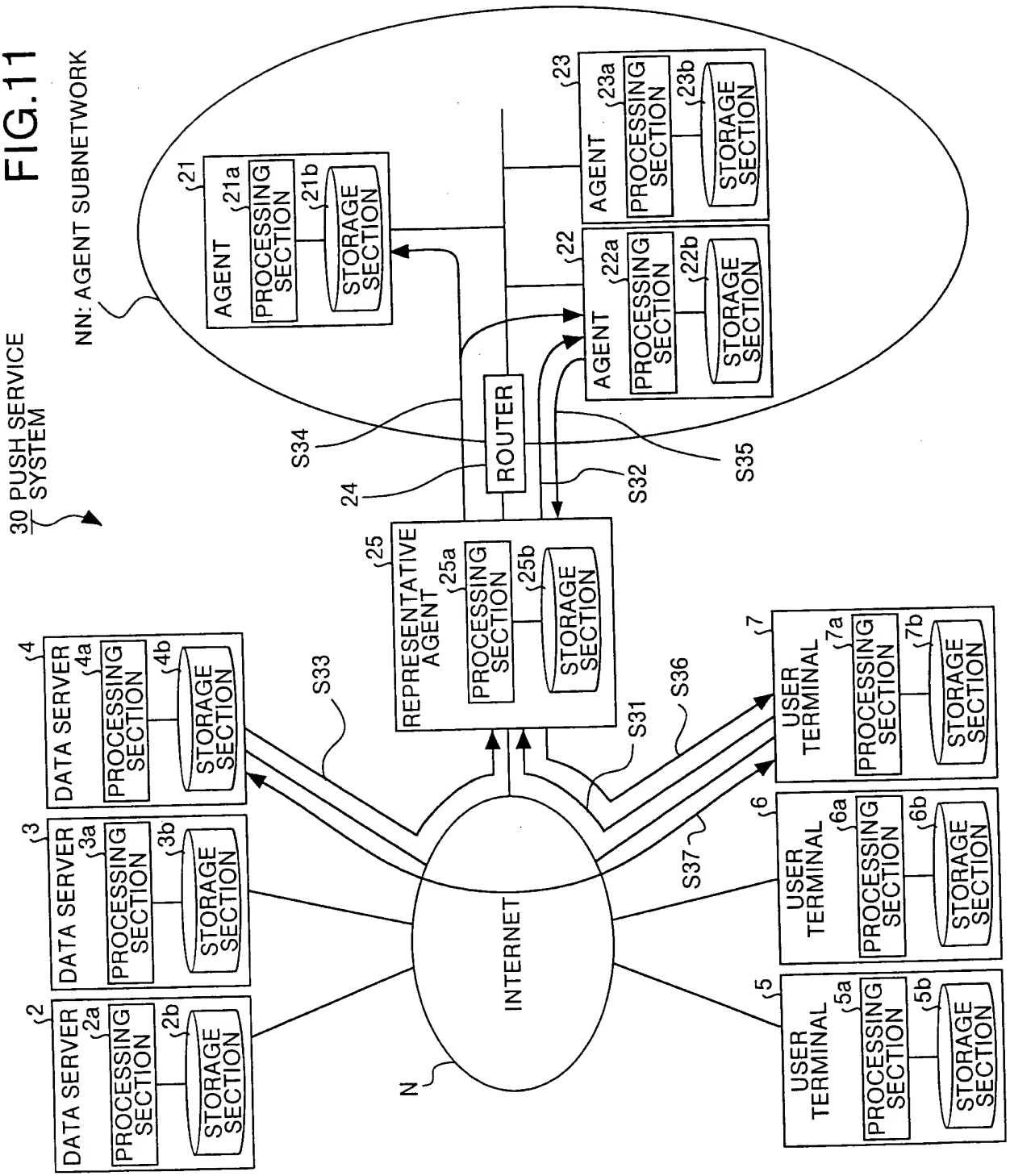

30 PUSH SERVICE SYSTEM
NN: AGENT SUBNETWORK
21
AGENT
21a
PROCESSING SECTION
21b
STORAGE SECTION
22
AGENT
22a
PROCESSING SECTION
22b
STORAGE SECTION
23
AGENT
23a
PROCESSING SECTION
23b
STORAGE SECTION
S34
S35
24
ROUTER
S32
25
REPRESENTATIVE AGENT
25a
PROCESSING SECTION
25b
STORAGE SECTION
S33
S31
S36
S37
INTERNET
N
2
DATA SERVER
2a
PROCESSING SECTION
2b
STORAGE SECTION
3
DATA SERVER
3a
PROCESSING SECTION
3b
STORAGE SECTION
4
DATA SERVER
4a
PROCESSING SECTION
4b
STORAGE SECTION
5
USER TERMINAL
5a
PROCESSING SECTION
5b
STORAGE SECTION
6
USER TERMINAL
6a
PROCESSING SECTION
6b
STORAGE SECTION
7
USER TERMINAL
7a
PROCESSING SECTION
7b
STORAGE SECTION

FIG.12

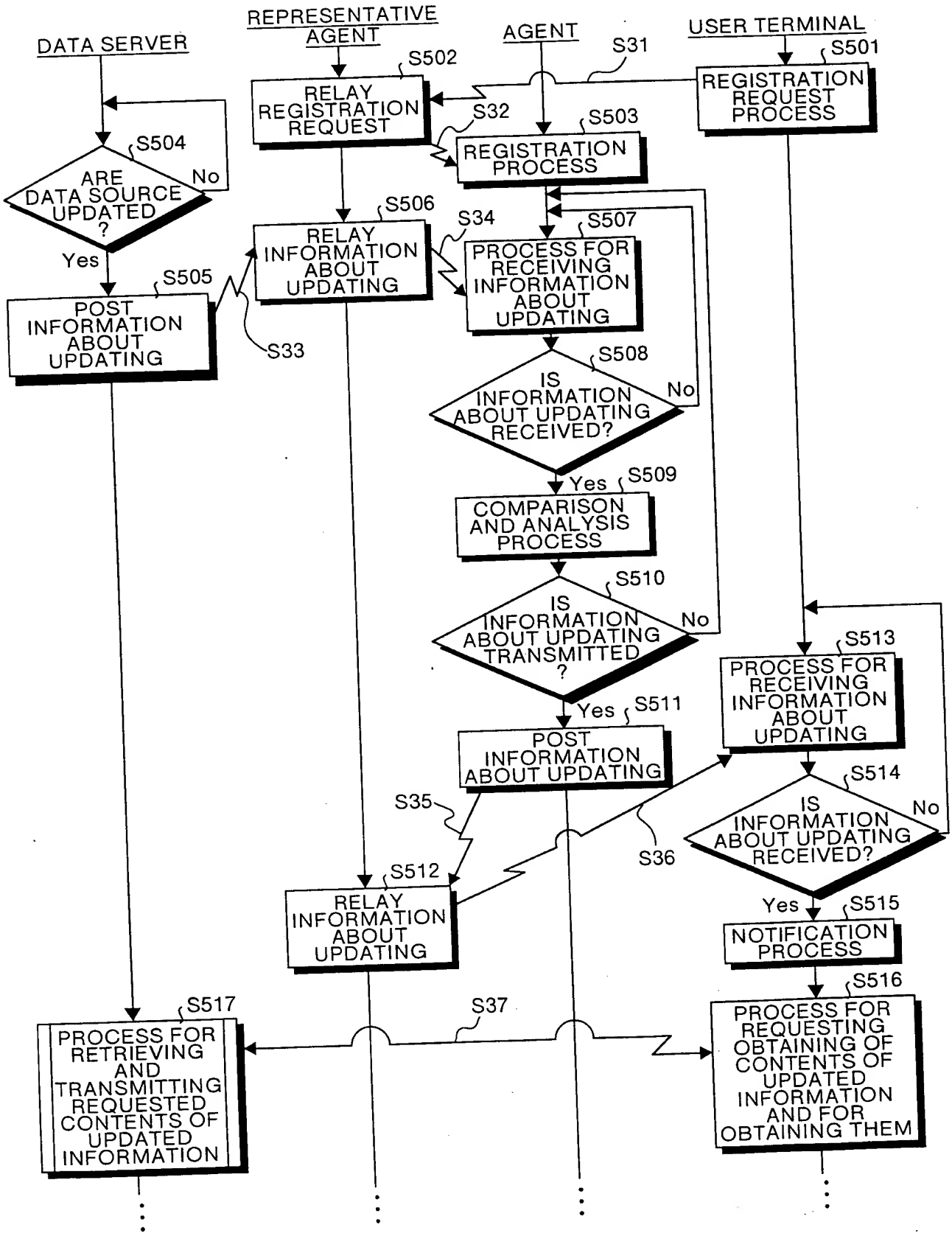

DATA SERVER
REPRESENTATIVE AGENT
AGENT
USER TERMINAL
S501
REGISTRATION REQUEST PROCESS
S502
RELAY REGISTRATION REQUEST
S31
S32
S503
REGISTRATION PROCESS
S504
ARE DATA SOURCE UPDATED ?
No
Yes
S505
POST INFORMATION ABOUT UPDATING
S33
S506
RELAY INFORMATION ABOUT UPDATING
S34
S507
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S508
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S509
COMPARISON AND ANALYSIS PROCESS
S510
IS INFORMATION ABOUT UPDATING TRANSMITTED ?
No
Yes
S511
POST INFORMATION ABOUT UPDATING
S513
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S514
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S515
NOTIFICATION PROCESS
S516
PROCESS FOR REQUESTING OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM
S35
S36
S512
RELAY INFORMATION ABOUT UPDATING
S37
S517
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION

FIG.13

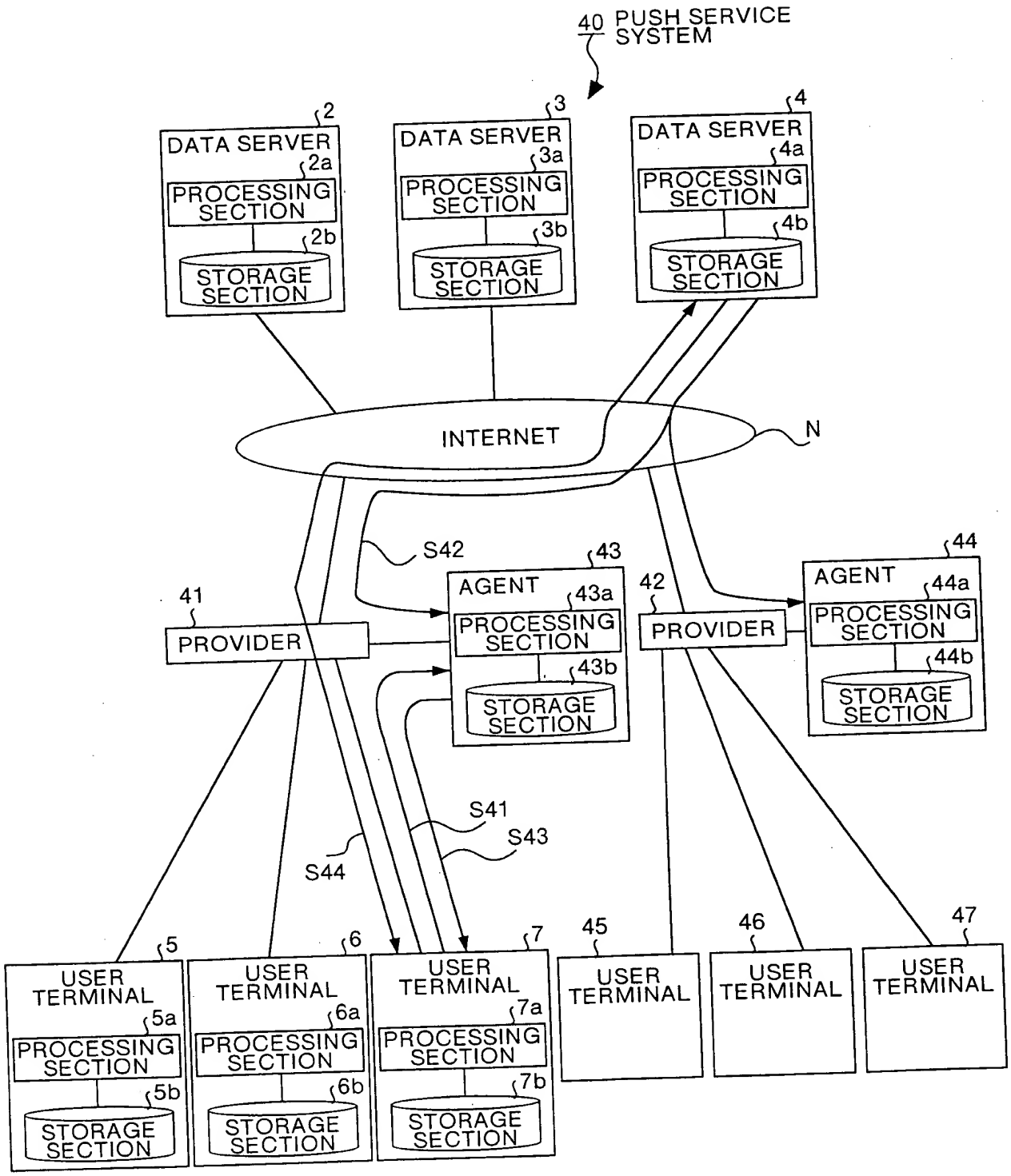

40 PUSH SERVICE SYSTEM
DATA SERVER
2
2a
PROCESSING SECTION
2b
STORAGE SECTION
DATA SERVER
3
3a
PROCESSING SECTION
3b
STORAGE SECTION
DATA SERVER
4
4a
PROCESSING SECTION
4b
STORAGE SECTION
INTERNET
N
S42
AGENT
43
43a
PROCESSING SECTION
43b
STORAGE SECTION
41
PROVIDER
42
PROVIDER
AGENT
44
44a
PROCESSING SECTION
44b
STORAGE SECTION
S41
S43
S44
USER TERMINAL
5
5a
PROCESSING SECTION
5b
STORAGE SECTION
USER TERMINAL
6
6a
PROCESSING SECTION
6b
STORAGE SECTION
USER TERMINAL
7
7a
PROCESSING SECTION
7b
STORAGE SECTION
USER TERMINAL
45
USER TERMINAL
46
USER TERMINAL
47

FIG.14

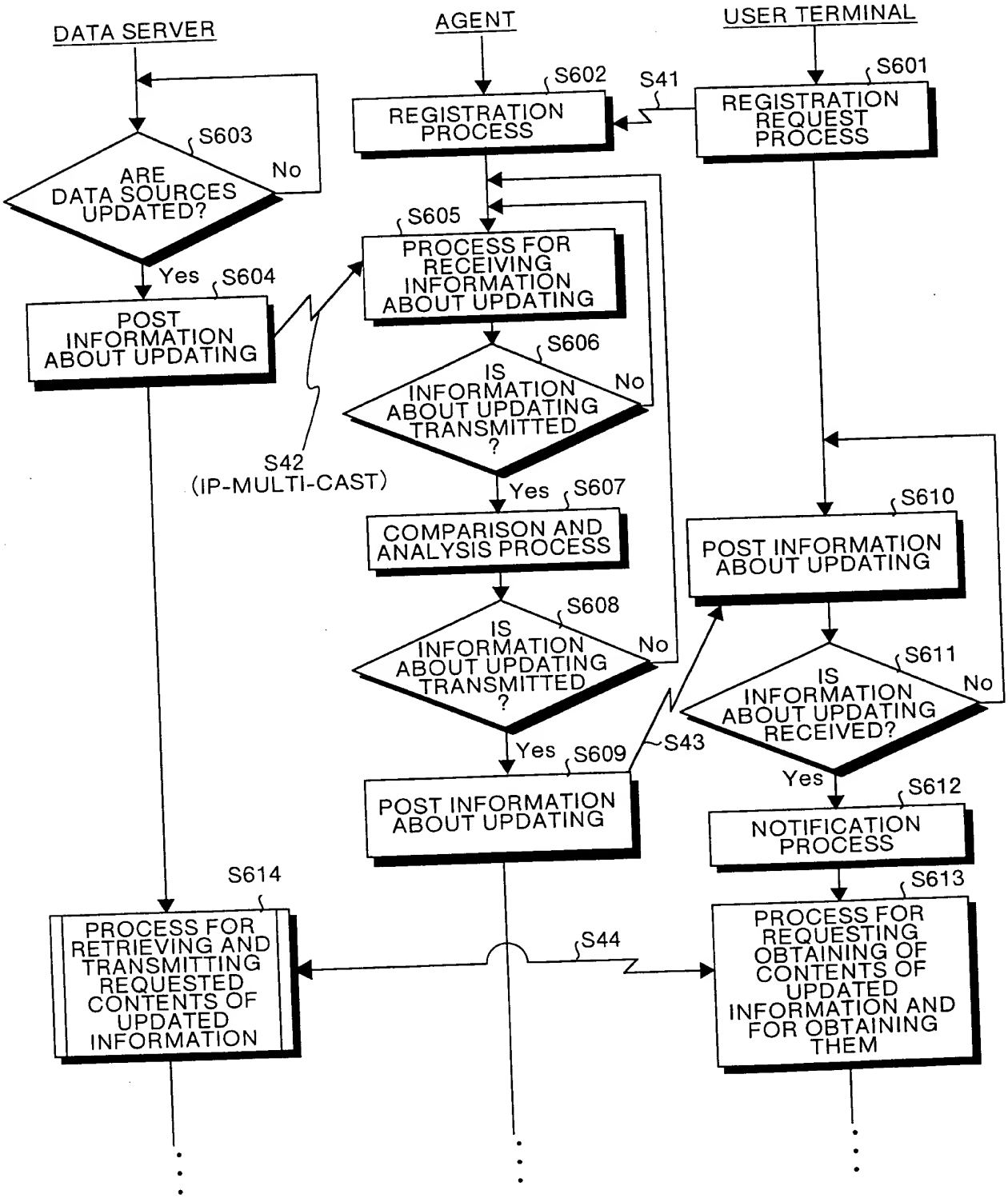

DATA SERVER
AGENT
USER TERMINAL
S601
REGISTRATION REQUEST PROCESS
S602
REGISTRATION PROCESS
S41
S603
ARE DATA SOURCES UPDATED?
No
Yes
S604
POST INFORMATION ABOUT UPDATING
S605
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S606
IS INFORMATION ABOUT UPDATING TRANSMITTED ?
No
Yes
S42
(IP-MULTI-CAST)
S607
COMPARISON AND ANALYSIS PROCESS
S608
IS INFORMATION ABOUT UPDATING TRANSMITTED ?
No
Yes
S609
POST INFORMATION ABOUT UPDATING
S43
S610
POST INFORMATION ABOUT UPDATING
S611
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S612
NOTIFICATION PROCESS
S613
PROCESS FOR REQUESTING OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM
S44
S614
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION

FIG.15

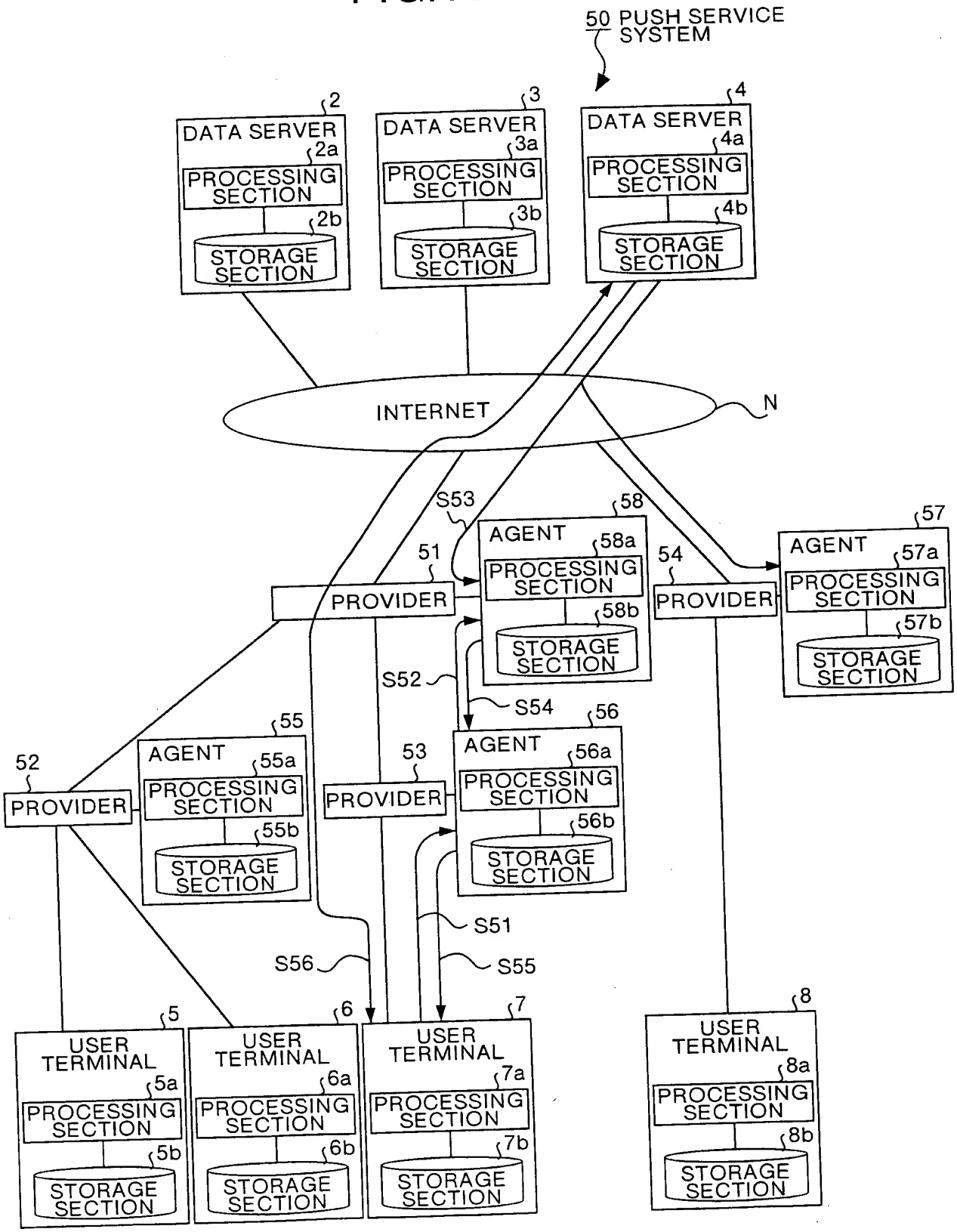

50 PUSH SERVICE SYSTEM
DATA SERVER
2
2a
PROCESSING SECTION
2b
STORAGE SECTION
DATA SERVER
3
3a
PROCESSING SECTION
3b
STORAGE SECTION
DATA SERVER
4
4a
PROCESSING SECTION
4b
STORAGE SECTION
INTERNET
N
S53
58
AGENT
58a
PROCESSING SECTION
58b
STORAGE SECTION
57
AGENT
57a
PROCESSING SECTION
57b
STORAGE SECTION
51
PROVIDER
54
PROVIDER
S52
S54
55
AGENT
55a
PROCESSING SECTION
55b
STORAGE SECTION
56
AGENT
56a
PROCESSING SECTION
56b
STORAGE SECTION
52
PROVIDER
53
PROVIDER
S51
S56
S55
5
USER TERMINAL
5a
PROCESSING SECTION
5b
STORAGE SECTION
6
USER TERMINAL
6a
PROCESSING SECTION
6b
STORAGE SECTION
7
USER TERMINAL
7a
PROCESSING SECTION
7b
STORAGE SECTION
8
USER TERMINAL
8a
PROCESSING SECTION
8b
STORAGE SECTION

FIG.16

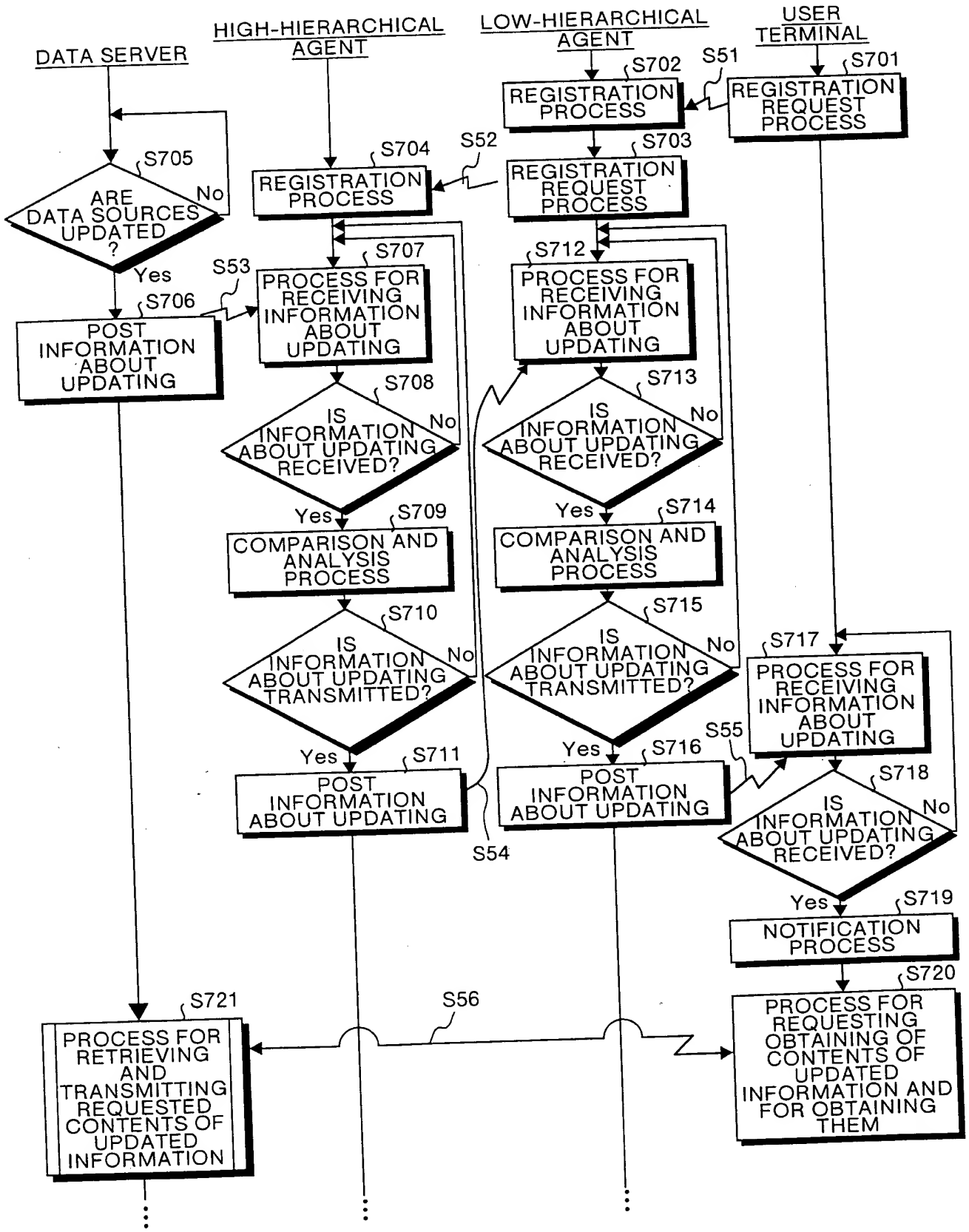

DATA SERVER
HIGH-HIERARCHICAL AGENT
LOW-HIERARCHICAL AGENT
USER TERMINAL
S701
REGISTRATION REQUEST PROCESS
S702
REGISTRATION PROCESS
S51
S703
REGISTRATION REQUEST PROCESS
S52
S704
REGISTRATION PROCESS
S705
ARE DATA SOURCES UPDATED ?
No
Yes
S706
POST INFORMATION ABOUT UPDATING
S53
S707
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S708
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S709
COMPARISON AND ANALYSIS PROCESS
S710
IS INFORMATION ABOUT UPDATING TRANSMITTED?
No
Yes
S711
POST INFORMATION ABOUT UPDATING
S54
S712
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S713
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S714
COMPARISON AND ANALYSIS PROCESS
S715
IS INFORMATION ABOUT UPDATING TRANSMITTED?
No
Yes
S716
POST INFORMATION ABOUT UPDATING
S55
S717
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S718
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S719
NOTIFICATION PROCESS
S720
PROCESS FOR REQUESTING OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM
S56
S721
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION

FIG.17

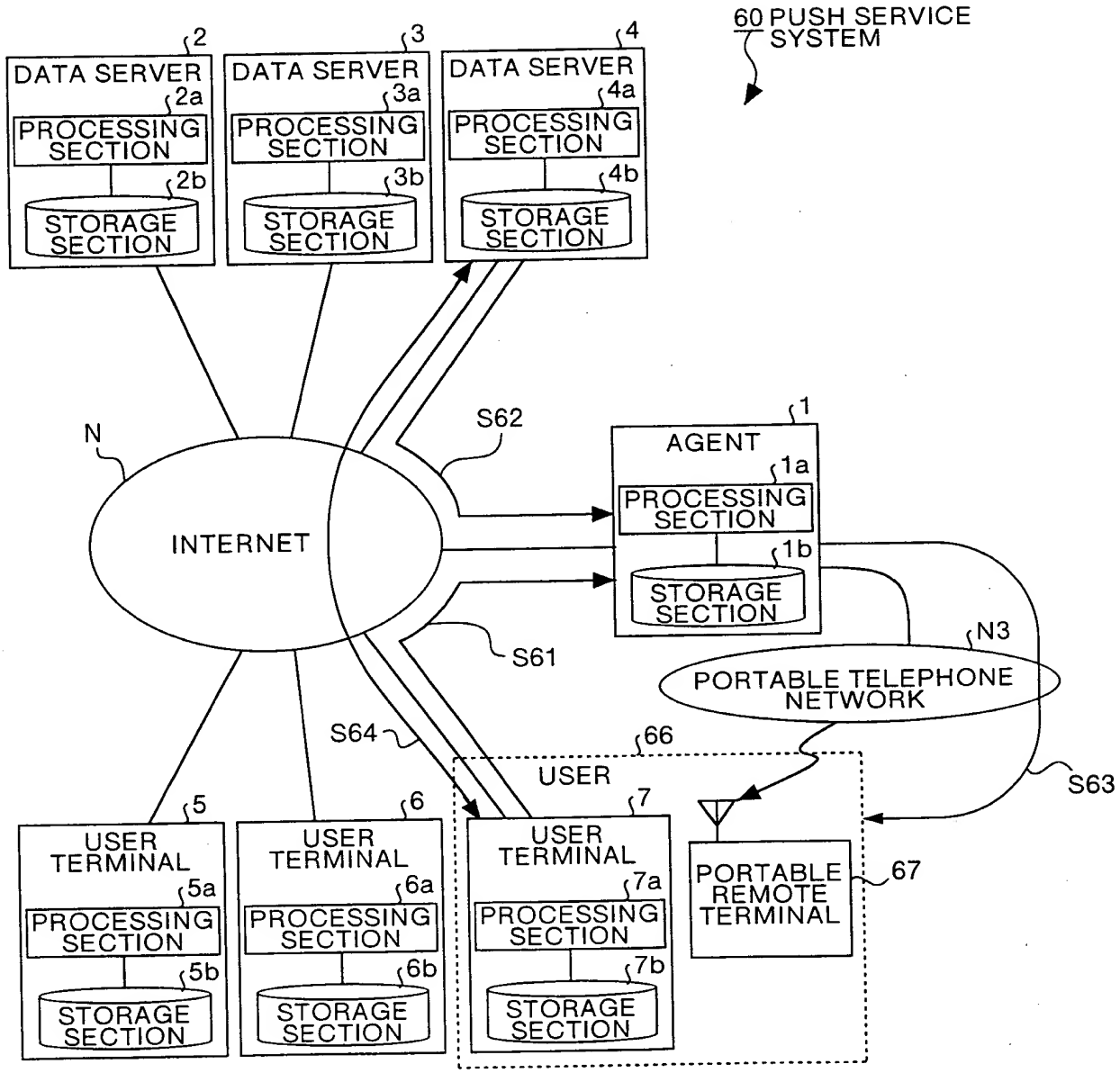
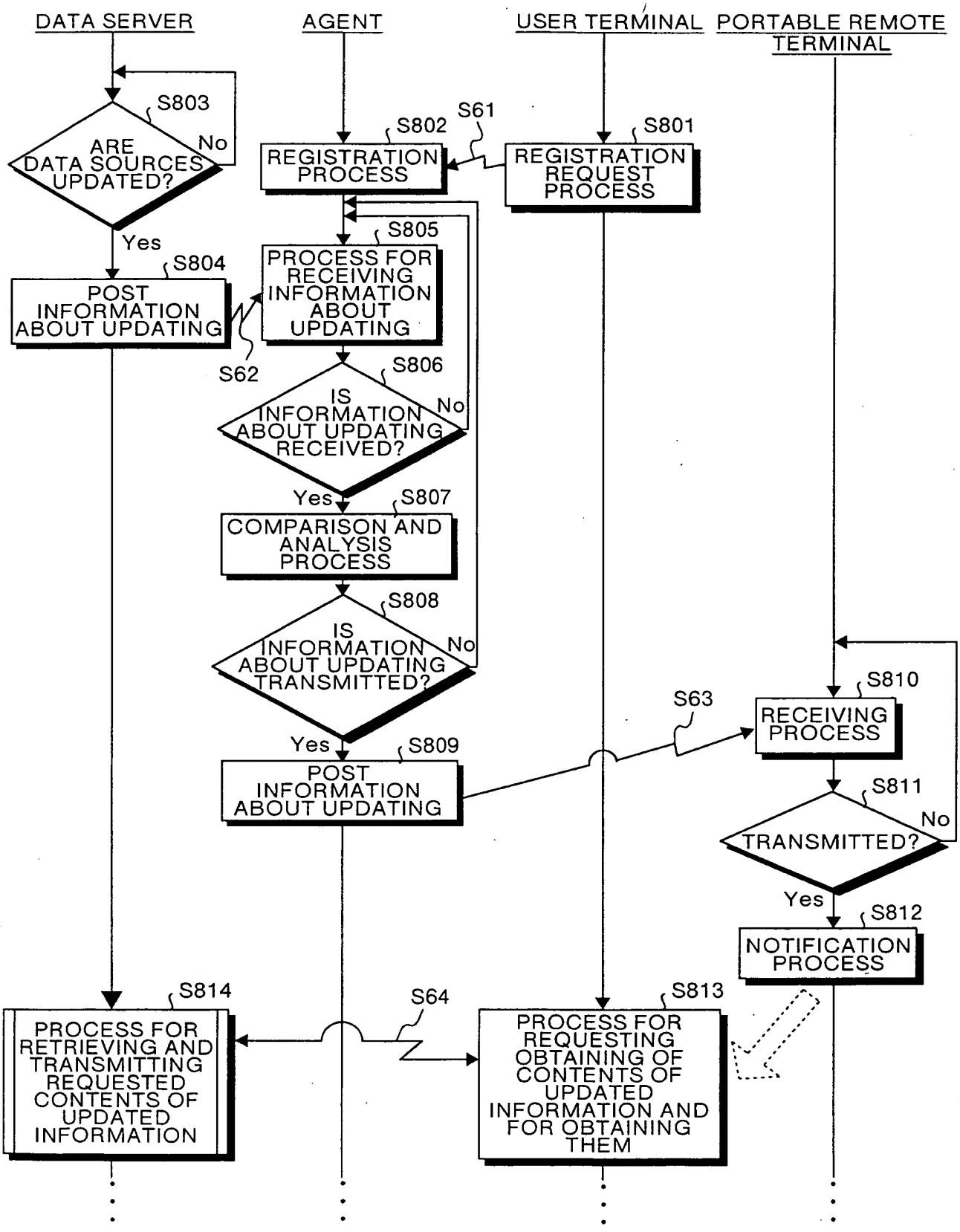

60 PUSH SERVICE SYSTEM
2
DATA SERVER
2a
PROCESSING SECTION
2b
STORAGE SECTION
3
DATA SERVER
3a
PROCESSING SECTION
3b
STORAGE SECTION
4
DATA SERVER
4a
PROCESSING SECTION
4b
STORAGE SECTION
N
INTERNET
S62
1
AGENT
1a
PROCESSING SECTION
1b
STORAGE SECTION
S61
N3
PORTABLE TELEPHONE NETWORK
S63
S64
66
USER
5
USER TERMINAL
5a
PROCESSING SECTION
5b
STORAGE SECTION
6
USER TERMINAL
6a
PROCESSING SECTION
6b
STORAGE SECTION
7
USER TERMINAL
7a
PROCESSING SECTION
7b
STORAGE SECTION
PORTABLE REMOTE TERMINAL
67

FIG.18


DATA SERVER
AGENT
USER TERMINAL
PORTABLE REMOTE TERMINAL
S803
ARE DATA SOURCES UPDATED?
No
Yes
S804
POST INFORMATION ABOUT UPDATING
S802
REGISTRATION PROCESS
S61
S801
REGISTRATION REQUEST PROCESS
S805
PROCESS FOR RECEIVING INFORMATION ABOUT UPDATING
S62
S806
IS INFORMATION ABOUT UPDATING RECEIVED?
No
Yes
S807
COMPARISON AND ANALYSIS PROCESS
S808
IS INFORMATION ABOUT UPDATING TRANSMITTED?
No
Yes
S809
POST INFORMATION ABOUT UPDATING
S63
S810
RECEIVING PROCESS
S811
TRANSMITTED?
No
Yes
S812
NOTIFICATION PROCESS
S814
PROCESS FOR RETRIEVING AND TRANSMITTING REQUESTED CONTENTS OF UPDATED INFORMATION
S64
S813
PROCESS FOR REQUESTING OBTAINING OF CONTENTS OF UPDATED INFORMATION AND FOR OBTAINING THEM